Fort Hood ITAM

Fort Hood Style Land Condition Management Program Utilizing MS Access and Arc-View

Integrating Range Control Support

Author: **Fredrich Schrank, USDA-NRCS**

Program Design: **Doug Creek, SWCD**

Fort Hood Authors: **Billy Piper, G-3 Range Control**

Jerry Paruzinski, ITAM

Don Jones, LRAM

Fort Hood's Range Control Requirements

User Friendly Management Program

For Survey Crews

For Coordinators and Land Managers

User Friendly Management Program

Data Entry

Land Condition Standards

Progress Reports

Program Design

Special Reports

User Friendly for:

Survey Crews

Laptop Computer for Easy Entry

Calculations are Immediate

Data Updated at Time of Entry

Coordinator and Land Managers

Data Entry

Main Switchboard

Ft Hood Project's

Surveydatabase

- Site Information
- 802
- Conc Flow Erosion
- RUSLE Data
- Sheet and Rill
- Activity and Practices
- Canopy and Bare Grd
- Reports

Main Switchboard

Ft Hood Project's

Surveydatabase

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- Sheet and Rill
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- Reports

tbl2000all2

Site	005
Picture	
UTM East	614549
UTM North	3471049
Training Ai	52a
ECO Site	Shallow
Soils	Doss
Fine Fuels	545
S_R	5
K	0.32
C	0.1
ConFlow	19
(S)	1
(B)	1
(W)	1
% BG	89
ESLC	2

Record: 5 of 214

Main Switchboard

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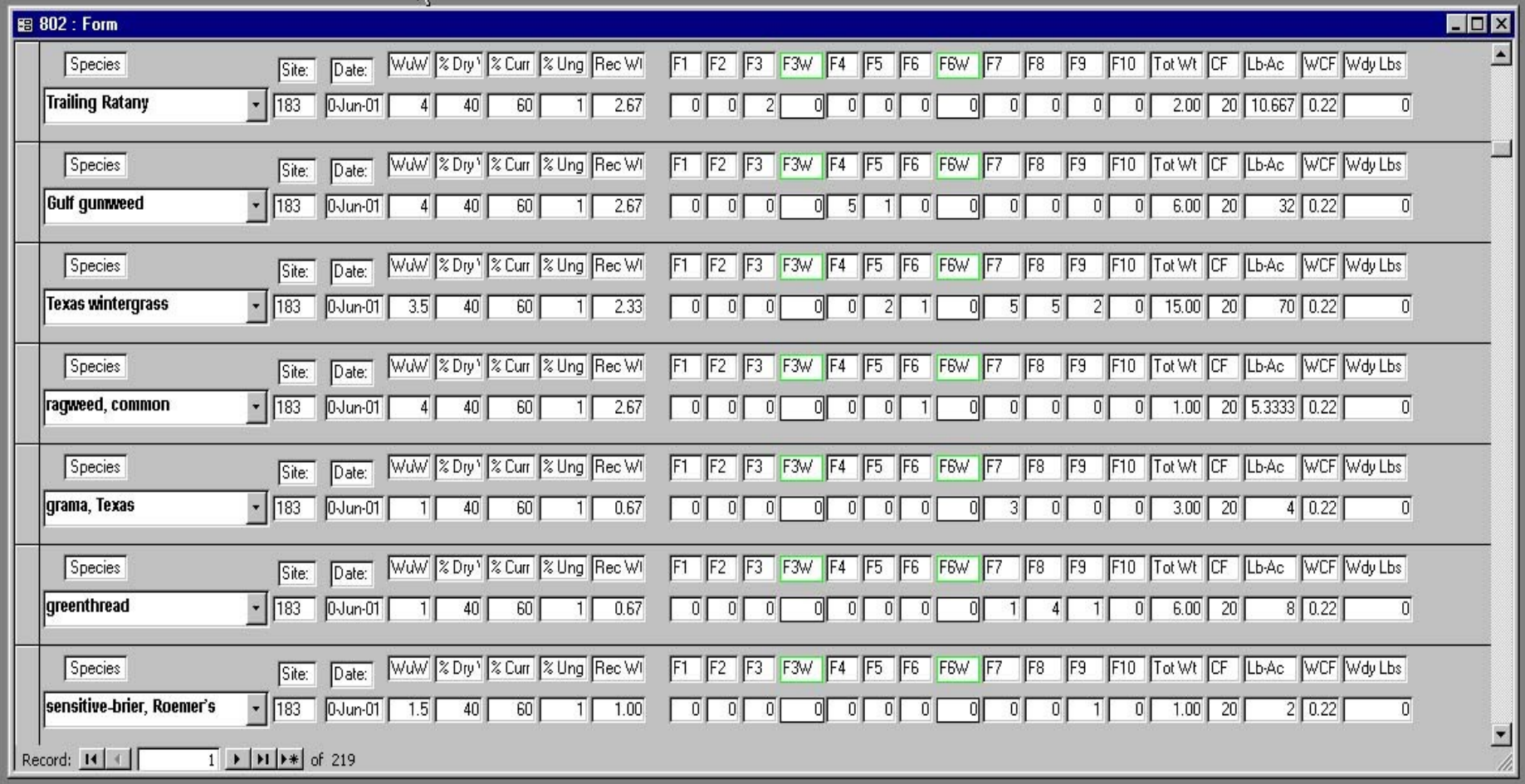
802 : Form
Species
Site:
Date:
WuW
% Dry
% Curr
% Ung
Rec Wt
F1
F2
F3
F3W
F4
F5
F6
F6W
F7
F8
F9
F10
Tot Wt
CF
Lb-Ac
WCF
Wdy Lbs
Trailing Ratany
183
0-Jun-01
4
40
60
1
2.67
0
0
2
0
0
0
0
0
0
0
0
0
2.00
20
10.667
0.22
0
Gulf gunweed
183
0-Jun-01
4
40
60
1
2.67
0
0
0
0
5
1
0
0
0
0
0
0
6.00
20
32
0.22
0
Texas wintergrass
183
0-Jun-01
3.5
40
60
1
2.33
0
0
0
0
0
2
1
0
5
5
2
0
15.00
20
70
0.22
0
ragweed, common
183
0-Jun-01
4
40
60
1
2.67
0
0
0
0
0
0
1
0
0
0
0
0
1.00
20
5.3333
0.22
0
grama, Texas
183
0-Jun-01
1
40
60
1
0.67
0
0
0
0
0
0
0
0
3
0
0
0
3.00
20
4
0.22
0
greenthread
183
0-Jun-01
1
40
60
1
0.67
0
0
0
0
0
0
0
0
1
4
1
0
6.00
20
8
0.22
0
sensitive-brier, Roemer's
183
0-Jun-01
1.5
40
60
1
1.00
0
0
0
0
0
0
0
0
0
0
1
0
1.00
20
2
0.22
0
Record:
1
of 219

Main Switchboard

Ft Hood Project's

Surveydatabase

- Site Information
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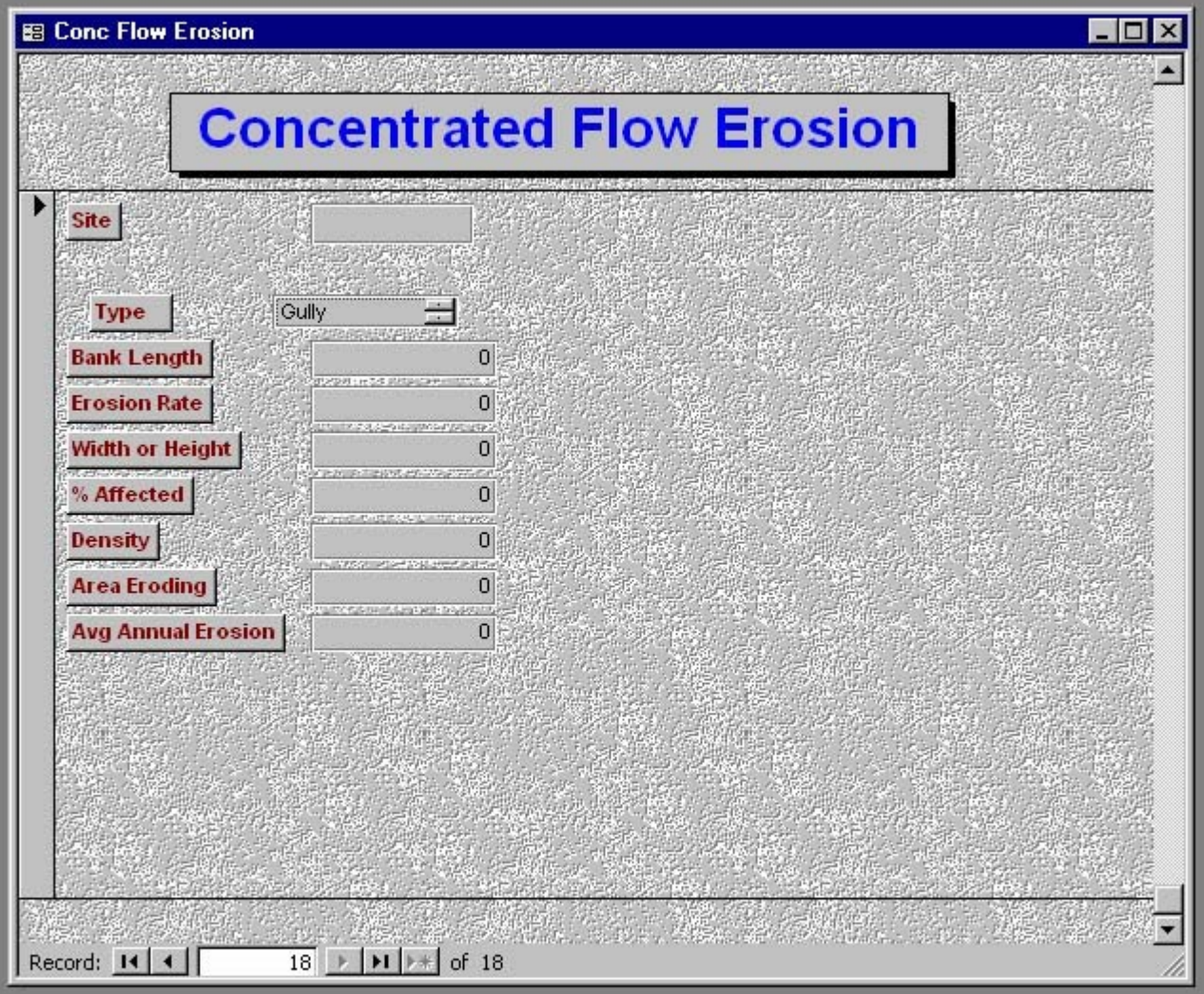
- Reports


Conc Flow Erosion
Concentrated Flow Erosion
Site
Type
Gully
Bank Length
0
Erosion Rate
0
Width or Height
0
% Affected
0
Density
0
Area Eroding
0
Avg Annual Erosion
0
Record:
18
of 18

Main Switchboard

Ft Hood Project's

Surveydatabase

- Site Information
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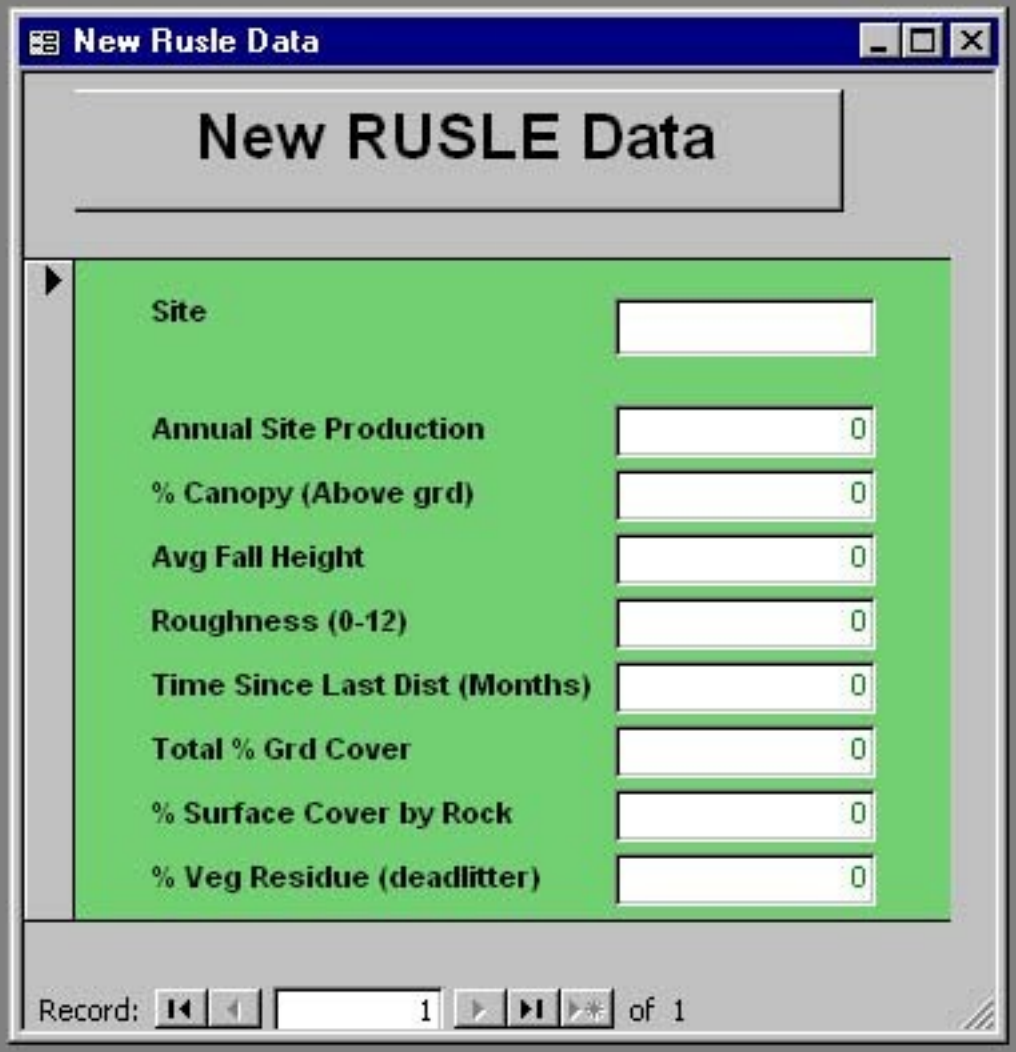
New Rusle Data
New RUSLE Data
Site
Annual Site Production
0
% Canopy (Above grd)
0
Avg Fall Height
0
Roughness (0-12)
0
Time Since Last Dist (Months)
0
Total % Grd Cover
0
% Surface Cover by Rock
0
% Veg Residue (deadlitter)
0
Record:
1
of 1

Main Switchboard

Ft Hood Project's

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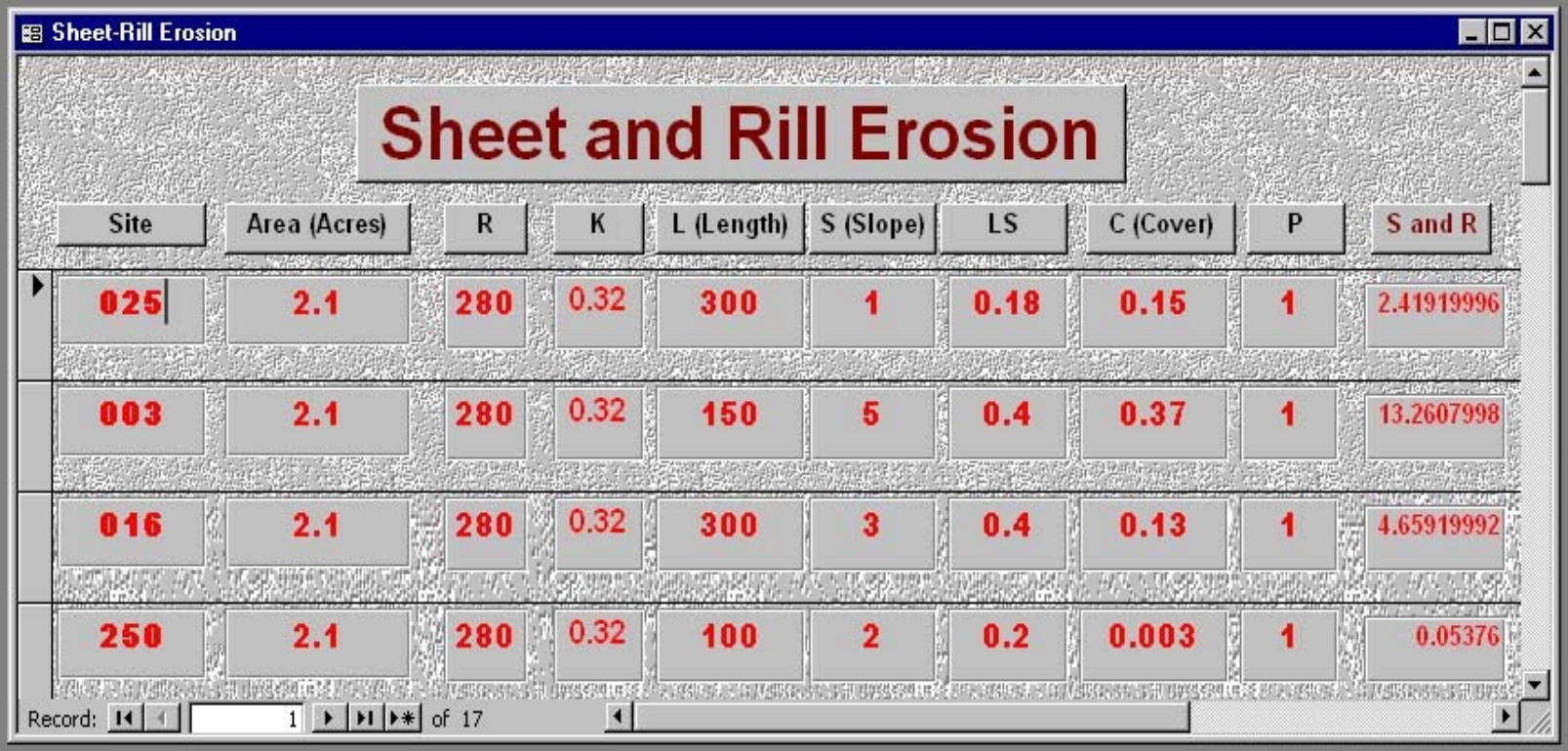
- Sheet and Rill
- Activity and Practices
- Canopy and Bare Grd
- Reports


Sheet-Rill Erosion
Sheet and Rill Erosion
Site
Area (Acres)
R
K
L (Length)
S (Slope)
LS
C (Cover)
P
S and R
025
2.1
280
0.32
300
1
0.18
0.15
1
2.41919996
003
2.1
280
0.32
150
5
0.4
0.37
1
13.2607998
016
2.1
280
0.32
300
3
0.4
0.13
1
4.65919992
250
2.1
280
0.32
100
2
0.2
0.003
1
0.05376
Record:
1
of 17

Main Switchboard

Ft Hood Project's

Surveydatabase

- Site Information
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- Sheet and Rill
- Activity and Practices
- Canopy and Bare Grd
- Reports

Activity and Practices
Site
Date
Heavy Military Use
Low Military Use
No Military Use
Dig Area
No Practice
Brush Control
Dam
Trail
Stream Crossing
RMT
Seeding
Mulch
MAS
MRA
LUE
Endangered Species
Cultural Site
Record:
1
of 1

Main Switchboard

Ft Hood Project's

Surveydatabase

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- RUSLE Data
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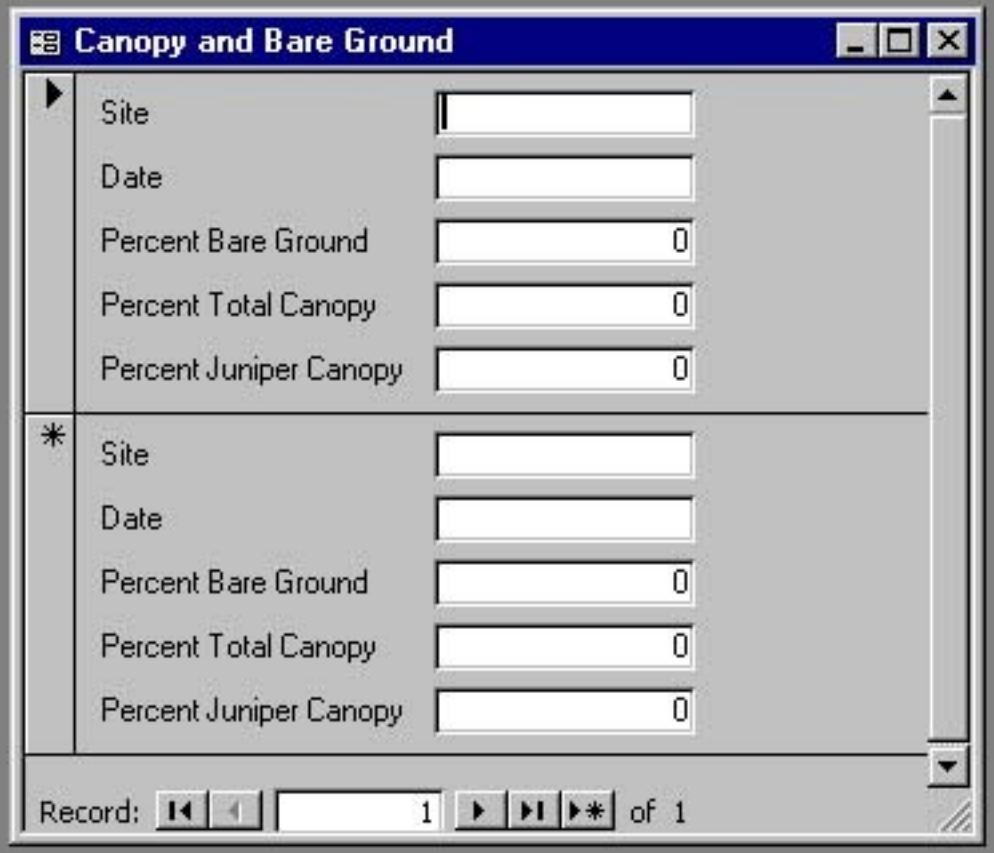
- Activity and Practices
- Canopy and Bare Grd
- Reports


Canopy and Bare Ground
Site
Date
Percent Bare Ground
0
Percent Total Canopy
0
Percent Juniper Canopy
0
Site
Date
Percent Bare Ground
0
Percent Total Canopy
0
Percent Juniper Canopy
0
Record:
1
of 1

User Friendly for:

Survey Crews

Coordinator and Land Managers

Land Condition Standards

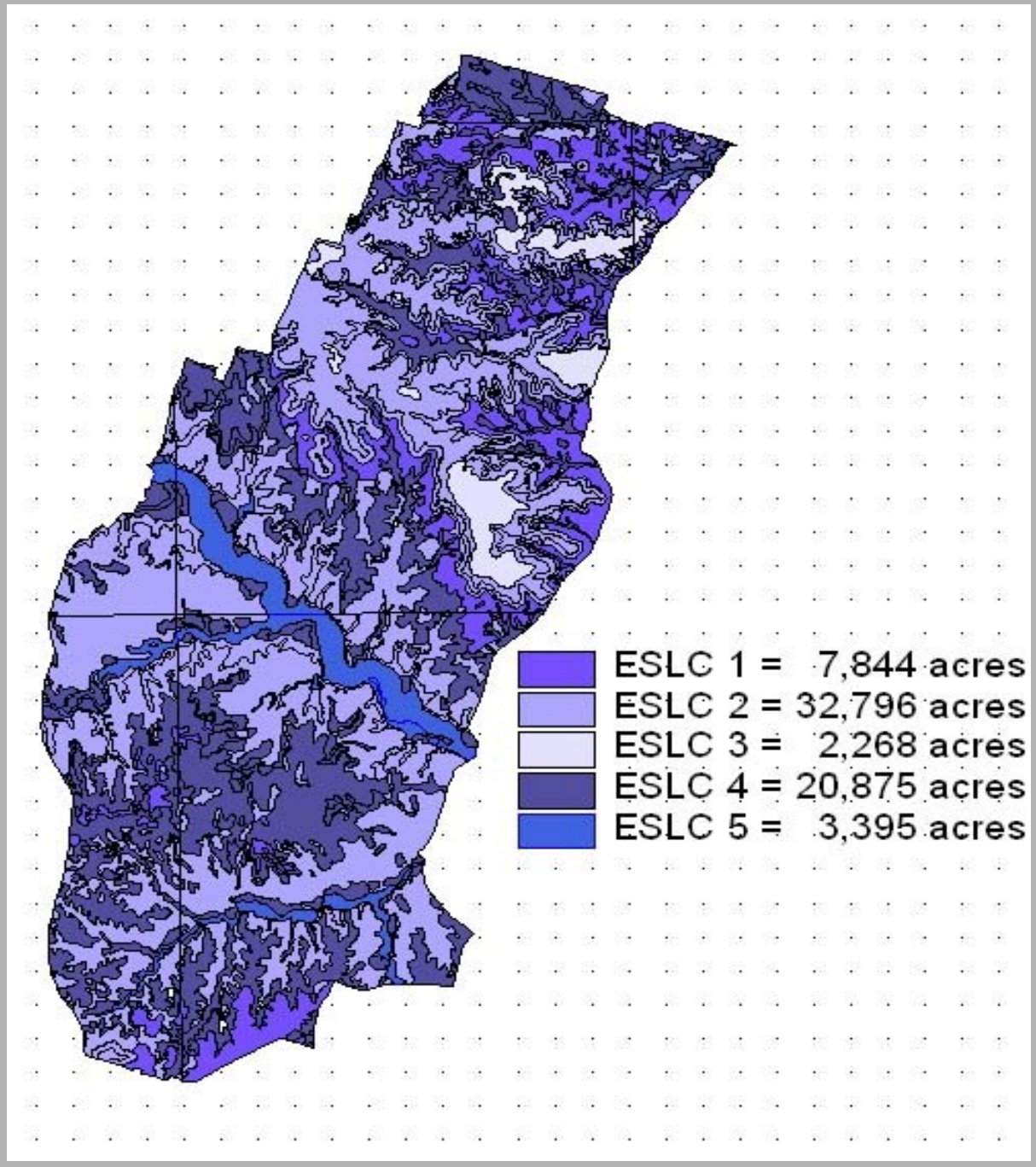
Progress Reports

Land Conditions Standards

Five NRCS's Ecological Site Categories

Land Condition Criteria

- Fine Fuel
- Sheet & Rill Erosion
- Concentrated Flow
- Bare Ground
- Rangeland Health


ESLC 1 = 7,844 acres
ESLC 2 = 32,796 acres
ESLC 3 = 2,268 acres
ESLC 4 = 20,875 acres
ESLC 5 = 3,395 acres

Land Conditions Standards

Five NRCS's Ecological Site Categories

Land Condition Criteria

Rangeland Health

Sheet & Rill Erosion

Concentrated Flow

Bare Ground

Fine Fuels

Rangeland Health Evaluation Summary

NRCS interprets the relationship of Soil, Biotic and Watershed function as it relates to a healthy ecological condition into a not stable, at risk or stable

Not Stable

At Risk

Stable

Land Conditions Standards

Five NRCS's Ecological Site Categories

Land Condition Criteria

- Rangeland Health
- Sheet & Rill Erosion
- Concentrated Flow
- Bare Ground
- Fine Fuel

Sheet and Rill Erosion - 12 Tons per Acre per Year

Sheet and Rill Erosion - 2
Tons per Acre per Year

Sheet and Rill Erosion - 0.03 Tons per Acre per Year

Land Conditions Standards

Five NRCS's Ecological Site Categories

Land Condition Criteria

- Rangeland Health
- Sheet & Rill Erosion
- Concentrated Flow
- Bare Ground
- Fine Fuel

CF Erosion - 5 Tons per Acre

CF Erosion - 30 Tons per Acre

CF Erosion - 50 Tons per Acre

CF Erosion - 160 Tons per Acre

Land Conditions Standards

Five NRCS's Ecological Site Categories

Land Condition Criteria

- Rangeland Health
- Sheet & Rill Erosion
- Concentrated Flow
- Bare Ground
- Fine Fuel

Bare Ground - 100%

Bare Ground - 40%

Bare Ground - 5%

Land Conditions Standards

Five NRCS's Ecological Site Categories

Land Condition Criteria

- Rangeland Health
- Sheet & Rill Erosion
- Concentrated Flow
- Bare Ground
- Fine Fuel

Fine Fuels -100 lbs. Per Acre

Fine Fuels - 500 lbs.
Per Acre

Fine Fuels - 2500 lbs per Acre

User Friendly for:

Survey Crews

Coordinator and Land Managers

Land Condition Standards

Progress Reports

Charts

Maps

Main Switchboard

Ft Hood Project's

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Reports

Ft Hood Project's

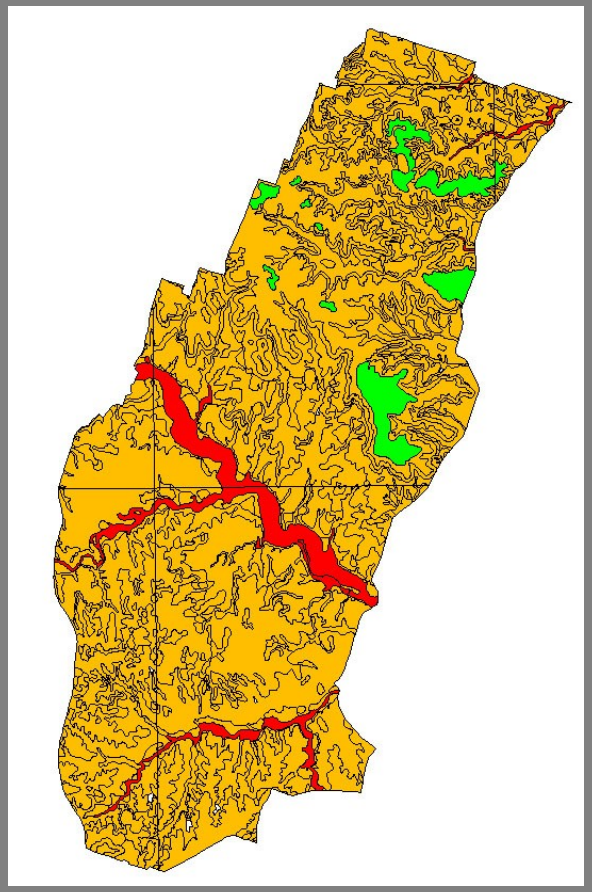
Surveydatabase

- Fine Fuel Report
- Erosion Report
- RLH and Bare Grd Report
- Return To Main Form

Fine Fuel Averages

ESLC	Year	Fine Fuels
1	1997	910
	1999	279
	2000	352
	2001	55
2	1997	843
	1999	537
	2000	328
	2001	202
3	1997	2745
	1999	802
	2000	537
	2001	574
4	1997	1042
	1999	794
	2000	478
	2001	263
5	1997	910
	1999	811
	2000	306
	2001	0

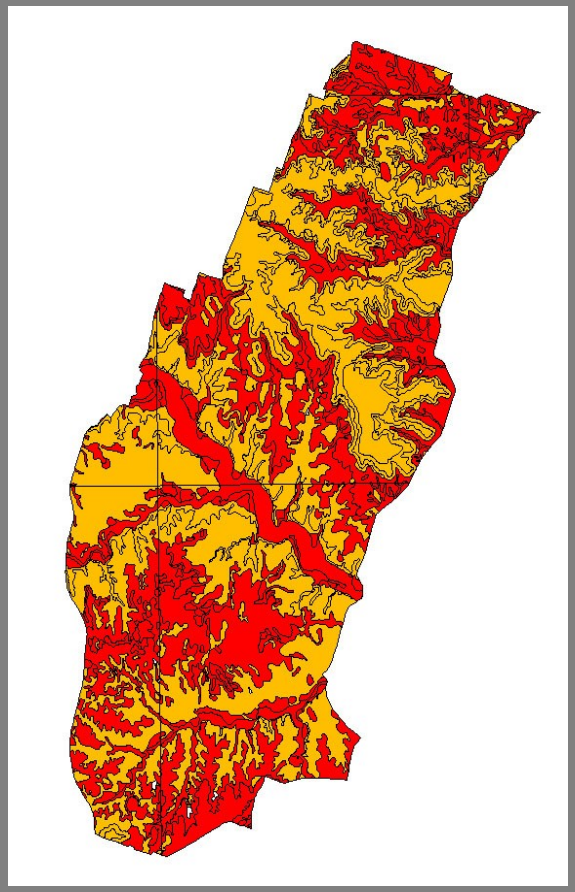
Fine Fuel Status



1997

Green = 3% of Area = 2268 acres

Amber = 92% of Area = 61,674 acres

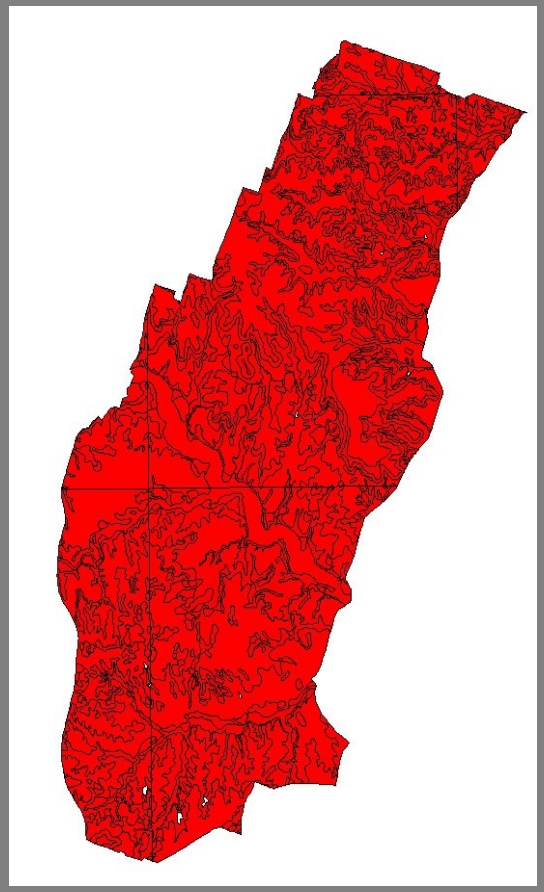


1999

Green = 0% of Area = 0 acres

Amber = 52% of Area = 35,165 acres

Red = 48% of Area = 32,172



2000 and 2001

Green = 0% of Area = 0 acres

Amber = 0% of Area = 0 acres

Red = 100% of Area = 67,337 acres

Reports

Ft Hood Project's

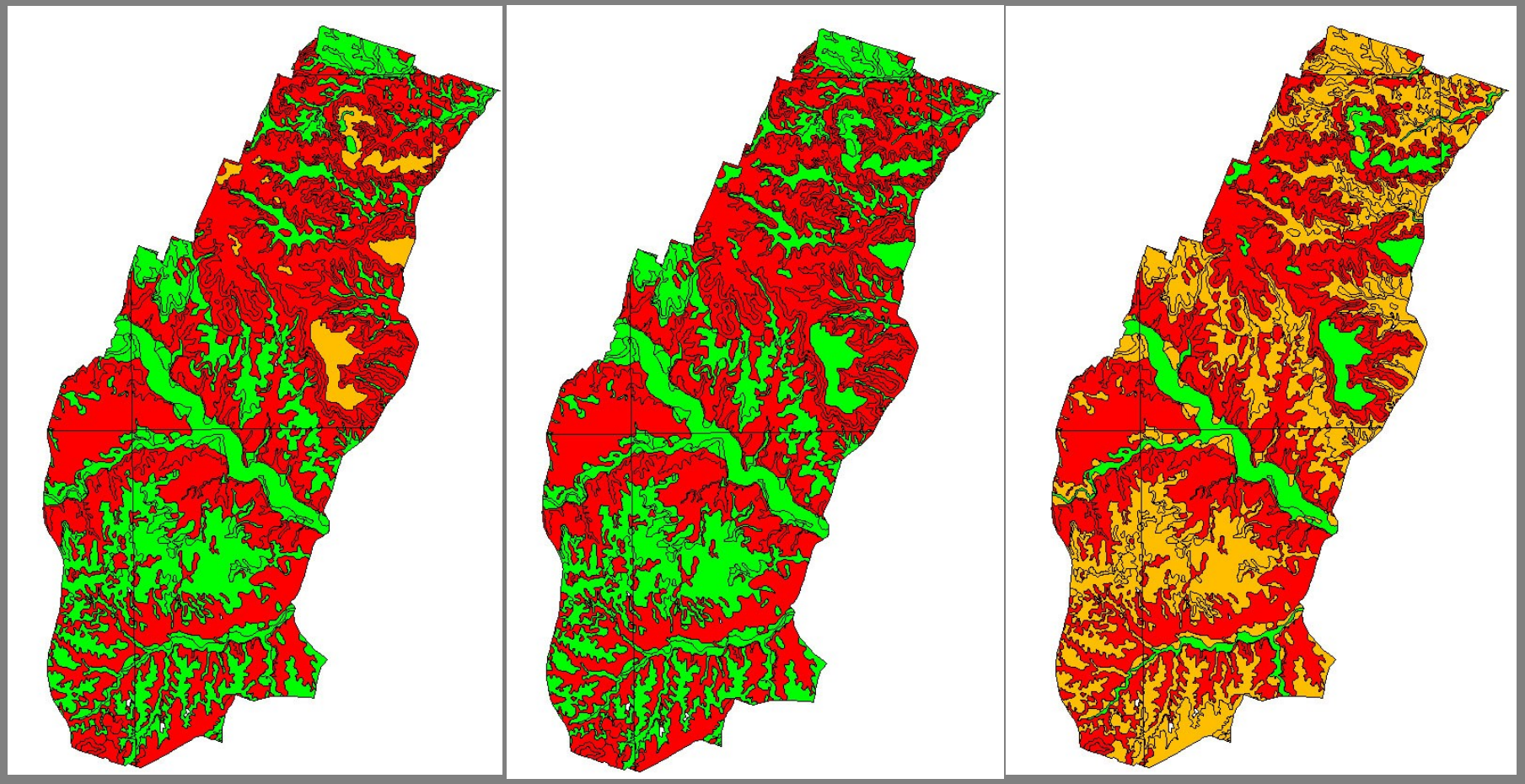
Surveydatabase

- [ ] Fine Fuel Report
- [x] Erosion Report
- [ ] RLH and Bare Grd Report
- [ ] Return To Main Form

Erosion Averages

ESLC	Year	S - R	ConFlow
1	1997	0	0
	1999	7.56	41.65
	2000	4.57	34.35
	2001	3.15	38.25
2	1997	0	0
	1999	4.88	6.32
	2000	6.33	23.79
	2001	13.08	54.7
3	1997	0	0
	1999	4.65	6
	2000	1.78	6.83
	2001	2.4	9.7
4	1997	0	0
	1999	2.68	17.51
	2000	3.04	27.99
	2001	7.72	46.94
5	1997	0	0
	1999	2.4	53.25
	2000	0.43	28.25
	2001	0	0

Sheet and Rill Erosion Status



1999 2000 2001

Reports

Ft Hood Project's

Surveydatabase

- Fine Fuel Report
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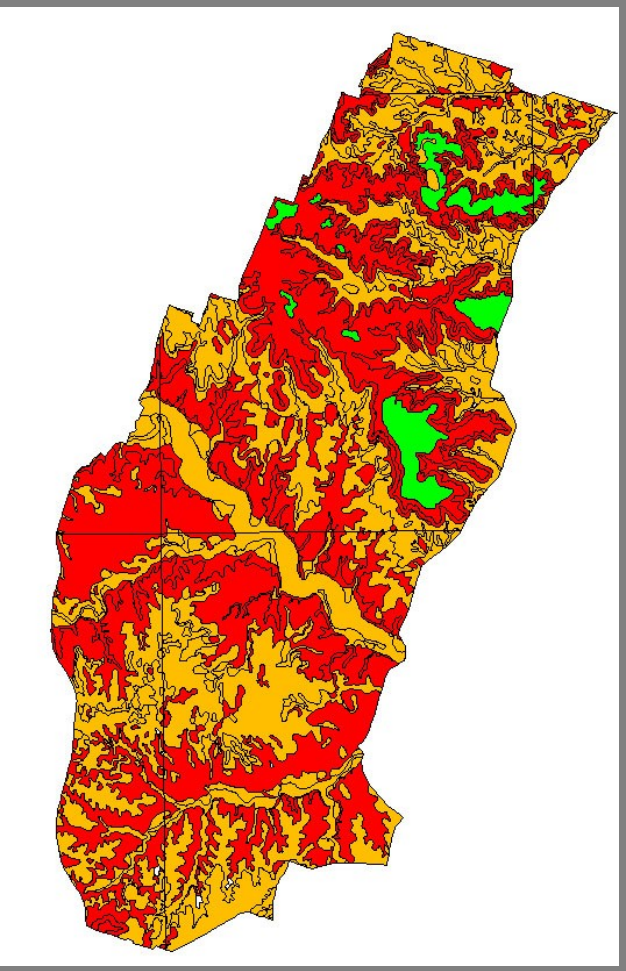
- RLH and Bare Grd Report
- Return To Main Form

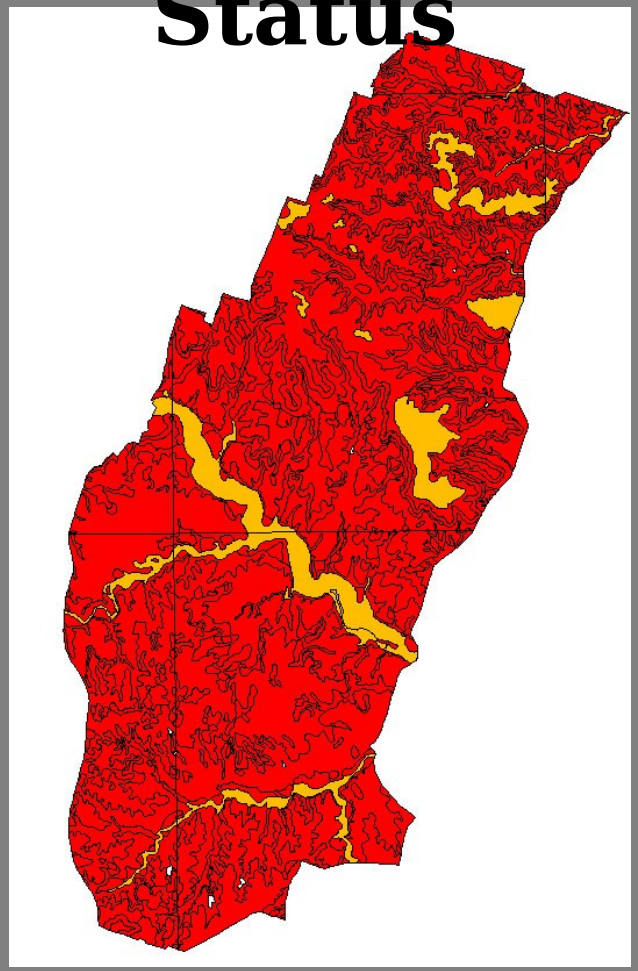
RLH and BG Averages

ESLC	Year	(S)	(B)	(W)	% Bare Grd
1	1997	0	0	0	0
	1999	1.5	2	1.5	70
	2000	1.66	1.47	1.66	75.14
	2001	1.4	1.2	1.4	80
2	1997	0	0	0	0
	1999	1.95	1.7	1.83	73.29
	2000	1.77	1.45	1.66	76.79
	2001	1.57	1.2	1.28	75
3	1997	0	0	0	0
	1999	3	2.5	3	23
	2000	2	1.5	1.83	53
	2001	2	1.3	2	66
4	1997	0	0	0	0
	1999	2	1.86	2.04	67.39
	2000	1.71	1.52	1.69	72.9
	2001	1.4	1.06	1.2	79.4
5	1997	0	0	0	0
	1999	2.5	2.5	2.5	50
	2000	2.5	1.62	2.5	66.5
	2001	0	0	0	0

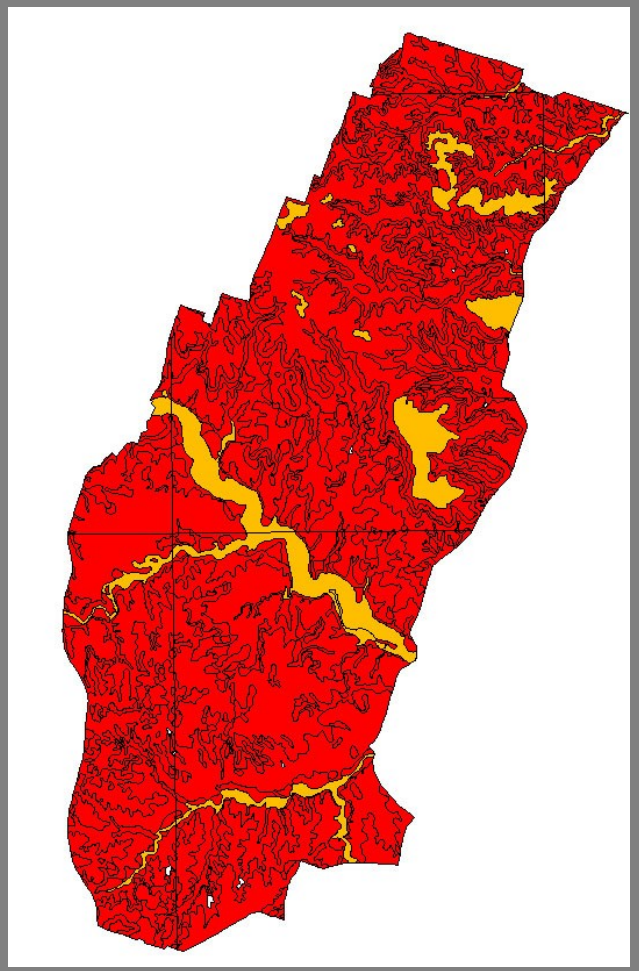
Bare Ground Status



1999

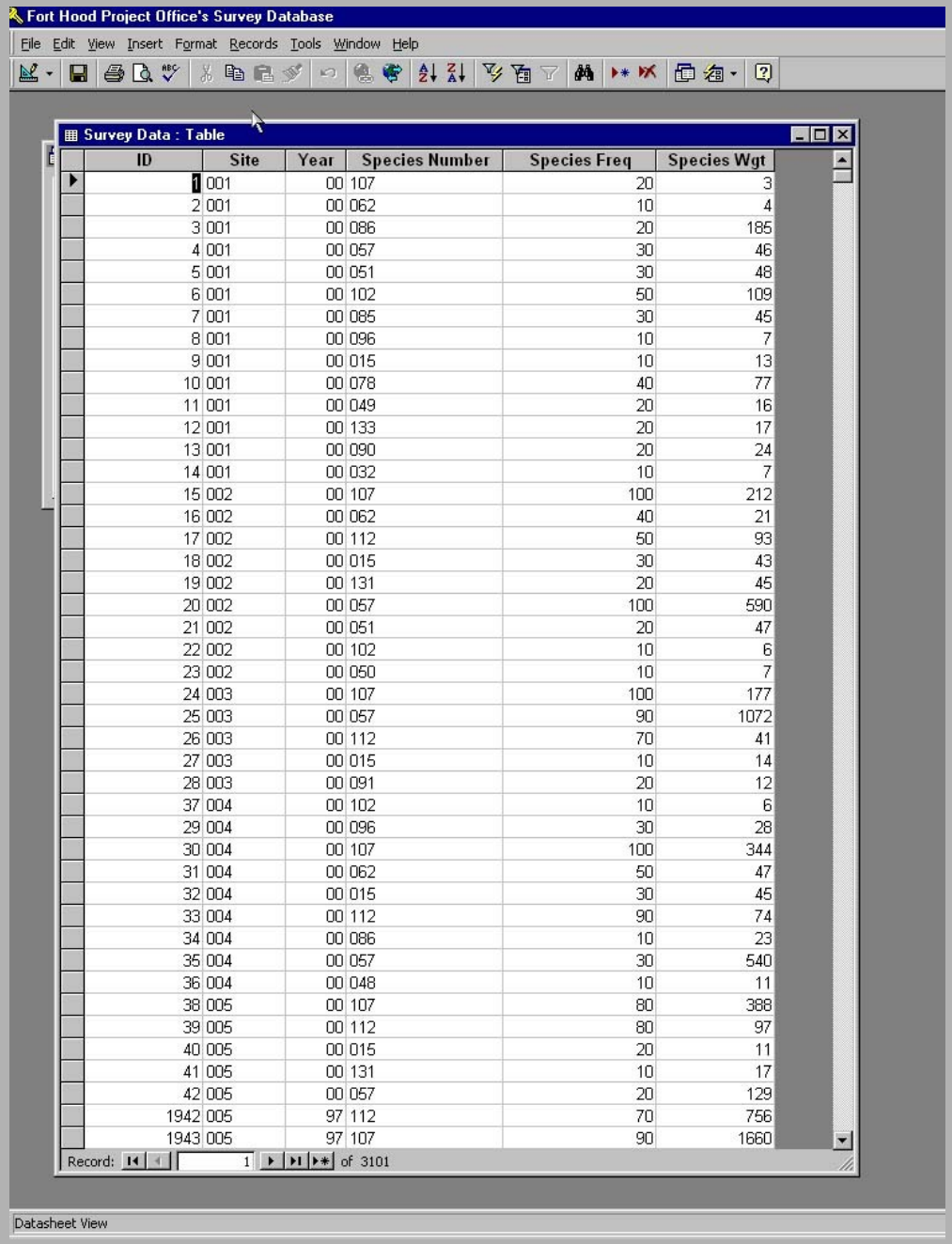


2000

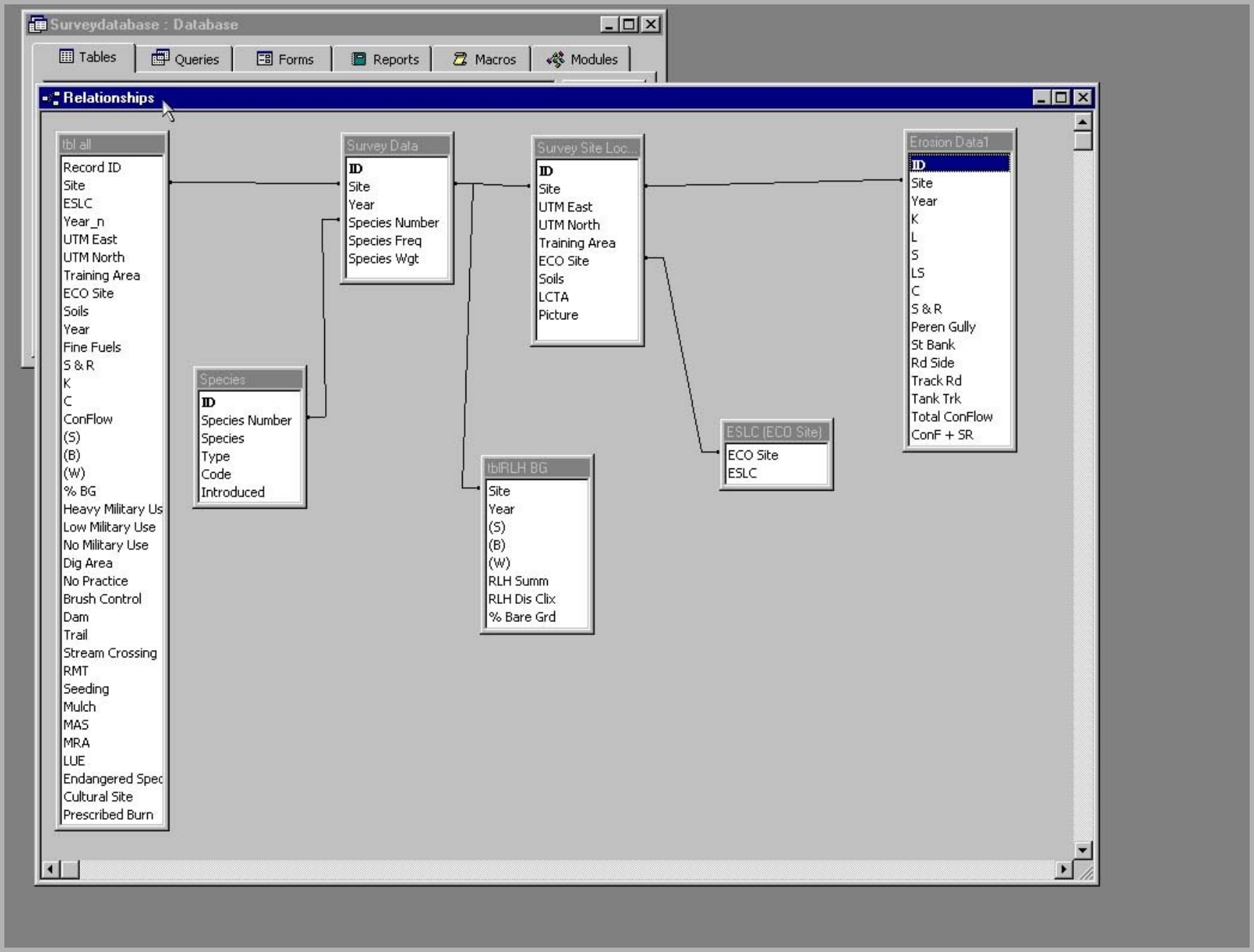


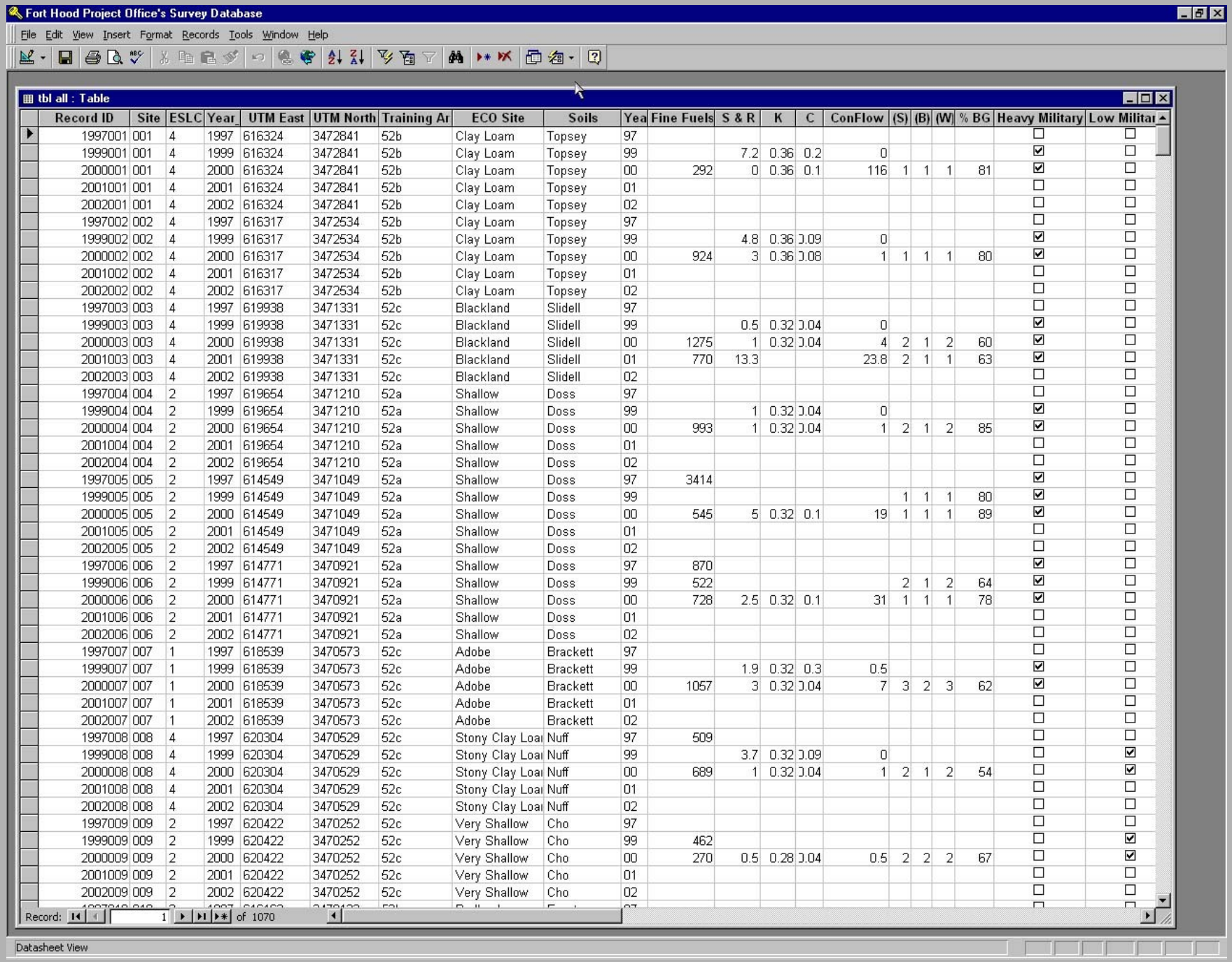
2001

Program Design


Fort Hood Project Office's Survey Database
File Edit View Insert Format Records Tools Window Help
Survey Data : Table
Record: 1 of 3101
Datasheet View

ID	Site	Year	Species Number	Species Freq	Species Wgt
1	001	00	107	20	3
2	001	00	062	10	4
3	001	00	086	20	185
4	001	00	057	30	46
5	001	00	051	30	48
6	001	00	102	50	109
7	001	00	085	30	45
8	001	00	096	10	7
9	001	00	015	10	13
10	001	00	078	40	77
11	001	00	049	20	16
12	001	00	133	20	17
13	001	00	090	20	24
14	001	00	032	10	7
15	002	00	107	100	212
16	002	00	062	40	21
17	002	00	112	50	93
18	002	00	015	30	43
19	002	00	131	20	45
20	002	00	057	100	590
21	002	00	051	20	47
22	002	00	102	10	6
23	002	00	050	10	7
24	003	00	107	100	177
25	003	00	057	90	1072
26	003	00	112	70	41
27	003	00	015	10	14
28	003	00	091	20	12
37	004	00	102	10	6
29	004	00	096	30	28
30	004	00	107	100	344
31	004	00	062	50	47
32	004	00	015	30	45
33	004	00	112	90	74
34	004	00	086	10	23
35	004	00	057	30	540
36	004	00	048	10	11
38	005	00	107	80	388
39	005	00	112	80	97
40	005	00	015	20	11
41	005	00	131	10	17
42	005	00	057	20	129
1942	005	97	112	70	756
1943	005	97	107	90	1660


Surveydatabase : Database
Tables
Queries
Forms
Reports
Macros
Modules
Relationships
tbl all
Record ID
Site
ESLC
Year_n
UTM East
UTM North
Training Area
ECO Site
Soils
Year
Fine Fuels
S & R
K
C
ConFlow
(S)
(B)
(W)
% BG
Heavy Military Us
Low Military Use
No Military Use
Dig Area
No Practice
Brush Control
Dam
Trail
Stream Crossing
RMT
Seeding
Mulch
MAS
MRA
LUE
Endangered Spec
Cultural Site
Prescribed Burn
Survey Data
ID
Site
Year
Species Number
Species Freq
Species Wgt
Survey Site Loc...
ID
Site
UTM East
UTM North
Training Area
ECO Site
Soils
LCTA
Picture
Erosion Data1
ID
Site
Year
K
L
S
LS
C
S & R
Peren Gully
St Bank
Rd Side
Track Rd
Tank Trk
Total ConFlow
ConF + SR
Species
ID
Species Number
Species
Type
Code
Introduced
tblRLH BG
Site
Year
(S)
(B)
(W)
RLH Summ
RLH Dis Clix
% Bare Grd
ESLC (ECO Site)
ECO Site
ESLC


Fort Hood Project Office's Survey Database
File Edit View Insert Format Records Tools Window Help
tbl all : Table
Record: 1 of 1070
Datasheet View

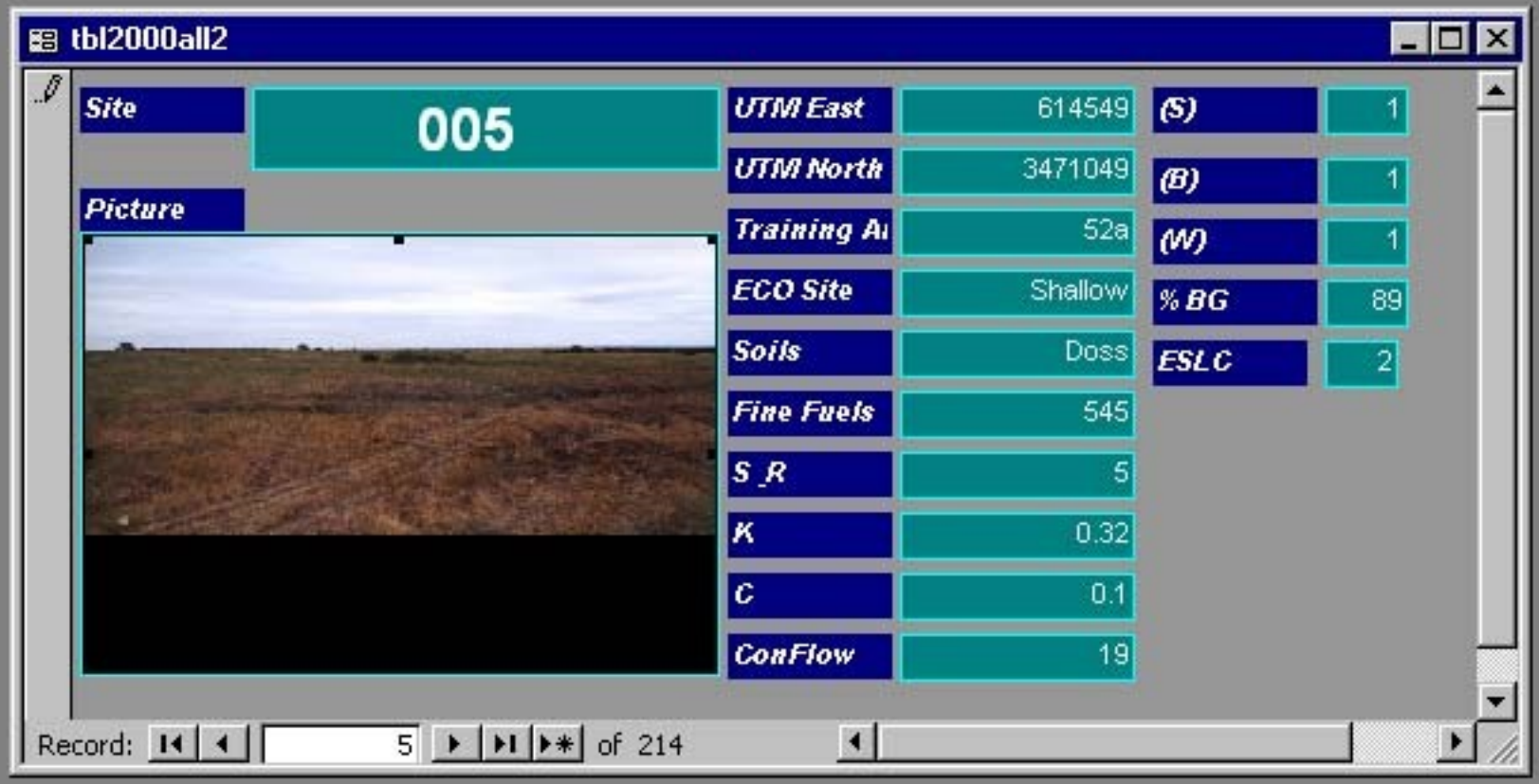
Record ID	Site	ESLC	Year	UTM East	UTM North	Training Ar	ECO Site	Soils	Yea	Fine Fuels	S & R	K	C	ConFlow	(S)	(B)	(W)	% BG	Heavy Military	Low Militar
1997001	001	4	1997	616324	3472841	52b	Clay Loam	Topsey	97										☐	☐
1999001	001	4	1999	616324	3472841	52b	Clay Loam	Topsey	99		7.2	0.36	0.2	0					☑	☐
2000001	001	4	2000	616324	3472841	52b	Clay Loam	Topsey	00	292	0	0.36	0.1	116	1	1	1	81	☑	☐
2001001	001	4	2001	616324	3472841	52b	Clay Loam	Topsey	01										☐	☐
2002001	001	4	2002	616324	3472841	52b	Clay Loam	Topsey	02										☐	☐
1997002	002	4	1997	616317	3472534	52b	Clay Loam	Topsey	97										☐	☐
1999002	002	4	1999	616317	3472534	52b	Clay Loam	Topsey	99		4.8	0.36	0.09	0					☑	☐
2000002	002	4	2000	616317	3472534	52b	Clay Loam	Topsey	00	924	3	0.36	0.08	1	1	1	1	80	☑	☐
2001002	002	4	2001	616317	3472534	52b	Clay Loam	Topsey	01										☐	☐
2002002	002	4	2002	616317	3472534	52b	Clay Loam	Topsey	02										☐	☐
1997003	003	4	1997	619938	3471331	52c	Blackland	Slidell	97										☐	☐
1999003	003	4	1999	619938	3471331	52c	Blackland	Slidell	99		0.5	0.32	0.04	0					☑	☐
2000003	003	4	2000	619938	3471331	52c	Blackland	Slidell	00	1275	1	0.32	0.04	4	2	1	2	60	☑	☐
2001003	003	4	2001	619938	3471331	52c	Blackland	Slidell	01	770	13.3			23.8	2	1	1	63	☑	☐
2002003	003	4	2002	619938	3471331	52c	Blackland	Slidell	02										☐	☐
1997004	004	2	1997	619654	3471210	52a	Shallow	Doss	97										☐	☐
1999004	004	2	1999	619654	3471210	52a	Shallow	Doss	99		1	0.32	0.04	0					☑	☐
2000004	004	2	2000	619654	3471210	52a	Shallow	Doss	00	993	1	0.32	0.04	1	2	1	2	85	☑	☐
2001004	004	2	2001	619654	3471210	52a	Shallow	Doss	01										☐	☐
2002004	004	2	2002	619654	3471210	52a	Shallow	Doss	02										☐	☐
1997005	005	2	1997	614549	3471049	52a	Shallow	Doss	97	3414									☑	☐
1999005	005	2	1999	614549	3471049	52a	Shallow	Doss	99						1	1	1	80	☑	☐
2000005	005	2	2000	614549	3471049	52a	Shallow	Doss	00	545	5	0.32	0.1	19	1	1	1	89	☑	☐
2001005	005	2	2001	614549	3471049	52a	Shallow	Doss	01										☐	☐
2002005	005	2	2002	614549	3471049	52a	Shallow	Doss	02										☐	☐
1997006	006	2	1997	614771	3470921	52a	Shallow	Doss	97	870									☑	☐
1999006	006	2	1999	614771	3470921	52a	Shallow	Doss	99	522					2	1	2	64	☑	☐
2000006	006	2	2000	614771	3470921	52a	Shallow	Doss	00	728	2.5	0.32	0.1	31	1	1	1	78	☑	☐
2001006	006	2	2001	614771	3470921	52a	Shallow	Doss	01										☐	☐
2002006	006	2	2002	614771	3470921	52a	Shallow	Doss	02										☐	☐
1997007	007	1	1997	618539	3470573	52c	Adobe	Brackett	97										☐	☐
1999007	007	1	1999	618539	3470573	52c	Adobe	Brackett	99		1.9	0.32	0.3	0.5					☑	☐
2000007	007	1	2000	618539	3470573	52c	Adobe	Brackett	00	1057	3	0.32	0.04	7	3	2	3	62	☑	☐
2001007	007	1	2001	618539	3470573	52c	Adobe	Brackett	01										☐	☐
2002007	007	1	2002	618539	3470573	52c	Adobe	Brackett	02										☐	☐
1997008	008	4	1997	620304	3470529	52c	Stony Clay Loai	Nuff	97	509									☐	☐
1999008	008	4	1999	620304	3470529	52c	Stony Clay Loai	Nuff	99		3.7	0.32	0.09	0					☐	☑
2000008	008	4	2000	620304	3470529	52c	Stony Clay Loai	Nuff	00	689	1	0.32	0.04	1	2	1	2	54	☐	☑
2001008	008	4	2001	620304	3470529	52c	Stony Clay Loai	Nuff	01										☐	☐
2002008	008	4	2002	620304	3470529	52c	Stony Clay Loai	Nuff	02										☐	☐
1997009	009	2	1997	620422	3470252	52c	Very Shallow	Cho	97										☐	☐
1999009	009	2	1999	620422	3470252	52c	Very Shallow	Cho	99	462									☐	☑
2000009	009	2	2000	620422	3470252	52c	Very Shallow	Cho	00	270	0.5	0.28	0.04	0.5	2	2	2	67	☐	☑
2001009	009	2	2001	620422	3470252	52c	Very Shallow	Cho	01										☐	☐
2002009	009	2	2002	620422	3470252	52c	Very Shallow	Cho	02										☐	☐

Special Reports

LRAM Projects

Queries

LRAM Projects " Under Construction"



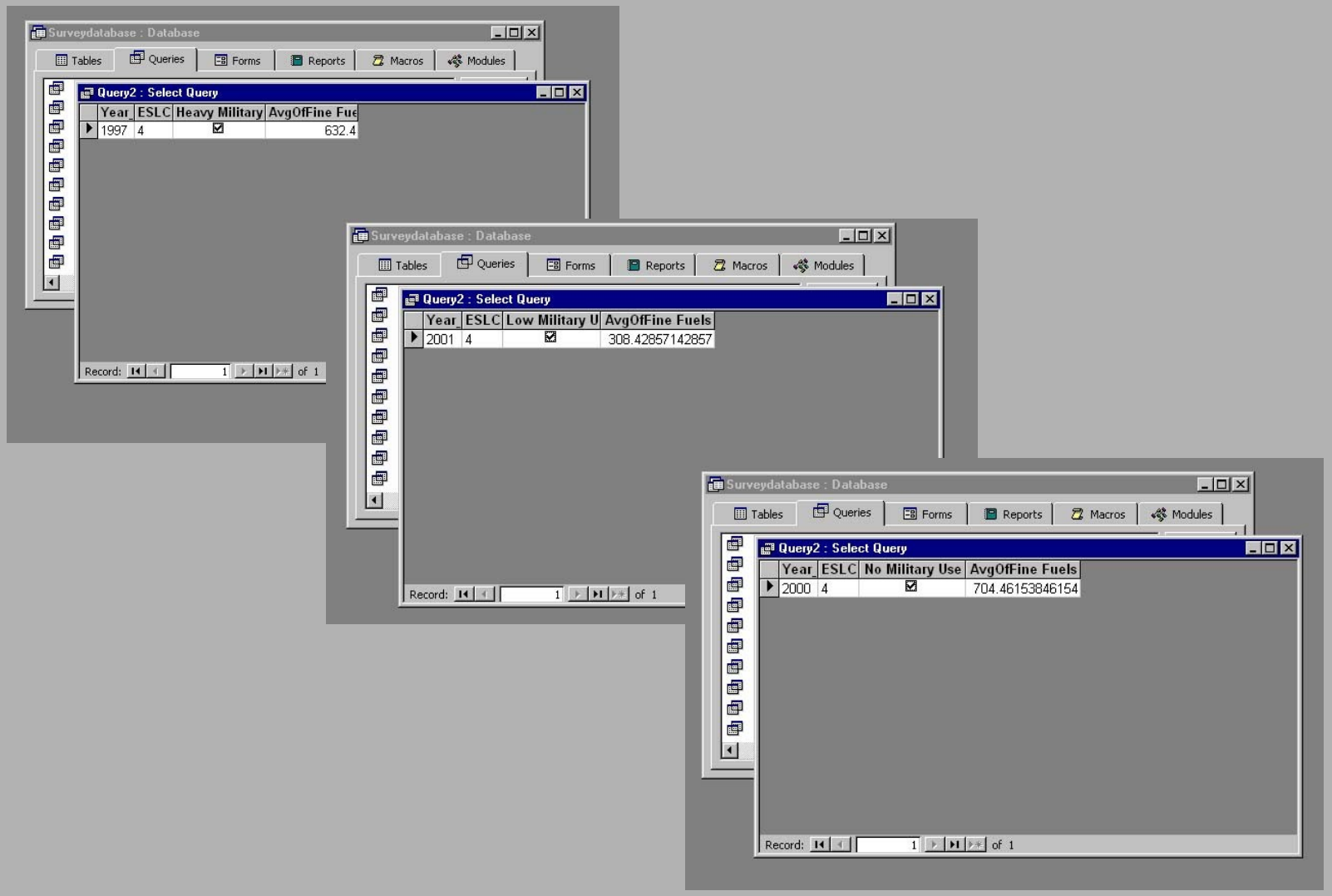
Special Reports

LRAM Projects

Queries

ITAM Request:

Compare the Fine Fuel criteria that is on the Maneuver Lanes classified as Heavy, Low and No Military Use.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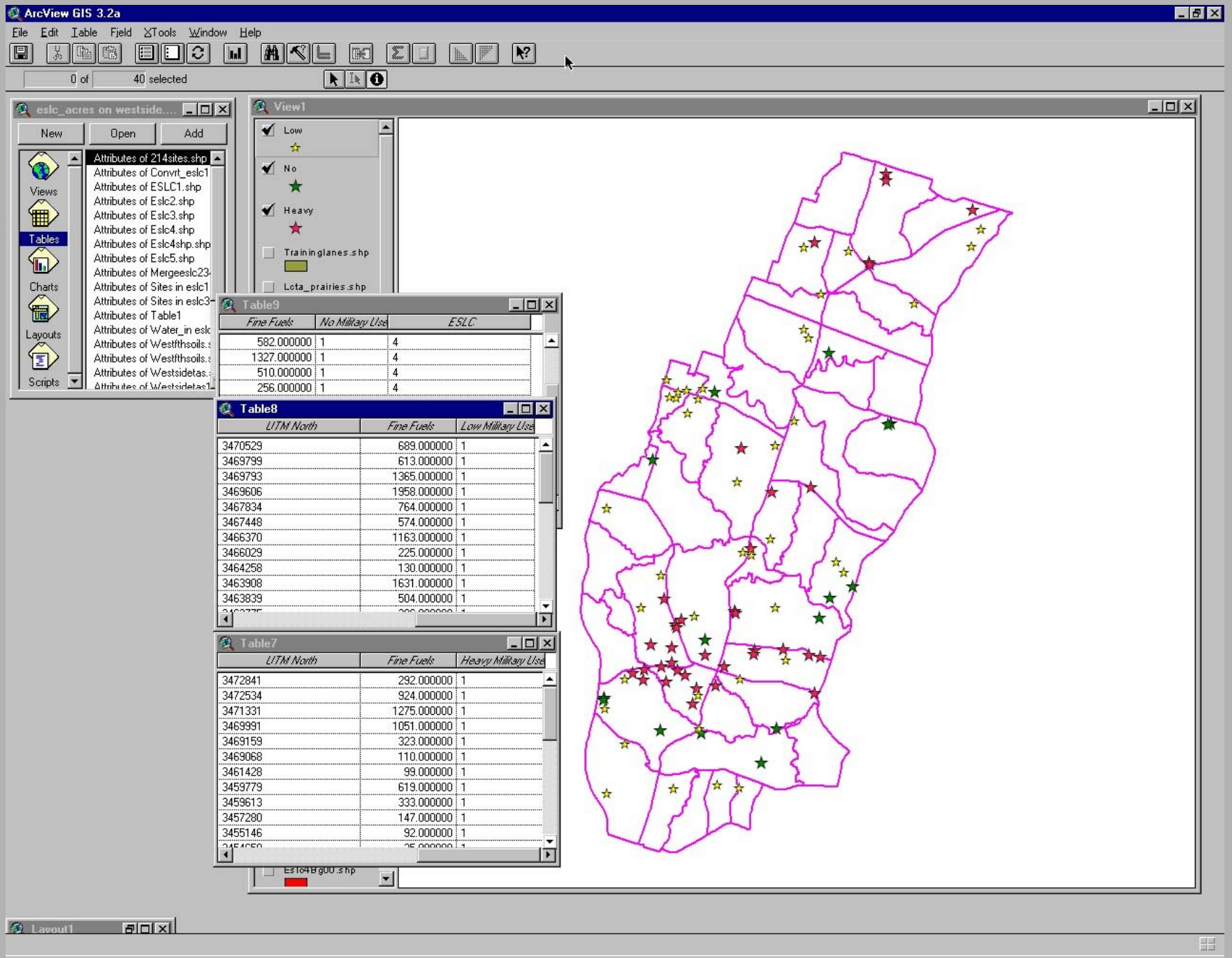
Tables
Queries
Forms
Reports
Macros
Modules
Query2 : Select Query
Year_ ESLC Heavy Military AvgOfFine Fue
1997 4 632.4
Record: 1 of 1
Surveydatabase : Database
Tables
Queries
Forms
Reports
Macros
Modules
Query2 : Select Query
Year_ ESLC Low Military U AvgOfFine Fuels
2001 4 308.42857142857
Record: 1 of 1
Surveydatabase : Database
Tables
Queries
Forms
Reports
Macros
Modules
Query2 : Select Query
Year_ ESLC No Military Use AvgOfFine Fuels
2000 4 704.46153846154
Record: 1 of 1

YEAR	USE	FINE FUEL AVG
1997	HEAVY	632.4 Lbs
1999	HEAVY	672.6 Lbs
2000	HEAVY	339.1 Lbs
2001	HEAVY	218.1 Lbs
1997	LOW	965.8 Lbs
1999	LOW	606.2 Lbs
2000	LOW	531.2 Lbs
2001	LOW	308.4 Lbs
1997	NO	1679.6 Lbs
1999	NO	1016.0 Lbs
2000	NO	704.4 Lbs
2001	NO	No Data


ArcView GIS 3.2a
File Edit Table Field XTools Window Help
0 of 40 selected
eslc_acres on westside....
New Open Add
Views
Tables
Charts
Layouts
Scripts
Attributes of 214sites.shp
Attributes of Convrt_eslc1
Attributes of ESLC1.shp
Attributes of Eslc2.shp
Attributes of Eslc3.shp
Attributes of Eslc4.shp
Attributes of Eslc4shp.shp
Attributes of Eslc5.shp
Attributes of Mergeeslc23
Attributes of Sites in eslc1
Attributes of Sites in eslc3
Attributes of Table1
Attributes of Water_in eslc
Attributes of Westfthsoils.
Attributes of Westfthsoils.
Attributes of Westsidetas.
Attributes of Westsidetas1
View1
Low
No
Heavy
Traininglanes.shp
Lcta_prairies.shp
Esic4BgUU.shp
Table9
Fine Fuels | No Military Use | ESLC
582.000000 | 1 | 4
1327.000000 | 1 | 4
510.000000 | 1 | 4
256.000000 | 1 | 4
Table8
UTM North | Fine Fuels | Low Military Use
3470529 | 689.000000 | 1
3469799 | 613.000000 | 1
3469793 | 1365.000000 | 1
3469606 | 1958.000000 | 1
3467834 | 764.000000 | 1
3467448 | 574.000000 | 1
3466370 | 1163.000000 | 1
3466029 | 225.000000 | 1
3464258 | 130.000000 | 1
3463908 | 1631.000000 | 1
3463839 | 504.000000 | 1
Table7
UTM North | Fine Fuels | Heavy Military Use
3472841 | 292.000000 | 1
3472534 | 924.000000 | 1
3471331 | 1275.000000 | 1
3469991 | 1051.000000 | 1
3469159 | 323.000000 | 1
3469068 | 110.000000 | 1
3461428 | 99.000000 | 1
3459779 | 619.000000 | 1
3459613 | 333.000000 | 1
3457280 | 147.000000 | 1
3455146 | 92.000000 | 1
Layout1

Summary

User Friendly Management Program

Data Entry

Land Condition Standards

Progress Reports

Program Design

Special Reports